

ABEER DYOUB || Curriculum Vitae

PostDoc

UNIVERSITY OF L'AQUILA, ITALY

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Education

- **University of L'Aquila, DISIM** L'Aquila, Italy
PostDoc 2020 - present
 - Title: Ethics of Artificial Intelligence: foundational aspects and their computational impact
 - Research Group: Artificial Agents and Artificial Intelligence
- **University of L'Aquila, DISIM** L'Aquila, Italy
PhD in ICT 2016 - 2019
 - Area: Software Engineering and Intelligent Systems
 - Thesis Title: Towards Ethical Chatbots: Monitoring and Evaluation of the Ethical Behavior of Employees in Online Customer Service Chat
- **Jamia Millia Islamia University** NewDelhi, India
Master Degree in Computer Applications (MCA) 2001 - 2004
- **Tishreen University** Latakia, Syria
Bachelor degree in Electronic Engineering 1995 - 2000

Personal Statement

I am a goal-oriented person who works hard and continuously. Personal and professional experiences in the academic world have provided me with the spirit of initiative, passion, competences and commitment required to pursue success in research.

Work Experience

- **Full-time Lecturer** Technical Computer Institute, Tishreen University
I was the main lecturer of the following courses: Sept. 2004 - July 2015
 - Advanced programming I (java)
 - * Academic Year: 2004-2008, 2009-2015
 - * Number of hours: 72 hours/year (6 hours per week)
 - Advanced programming II (java)
 - * Academic Year: 2004-2008, 2009-2015

- * Number of hours: 72 hours/year (6 hours per week)
- Databases I (oracle)
 - * Academic Year: 2004-2008
 - * Number of hours: 48 hours/year (4 hours per week)
- Databases II (oracle)
 - * Academic Year: 2004-2008
 - * Number of hours: 48 hours/year (4 hours per week)
- Internet Technologies (PHP and MySQL and JavaScript)
 - * Academic Year: 2009-2015
 - * Number of hours: 72 hours/year (6 hours per week)
- Information Security
 - * Academic Year: 2009-2015
 - * Number of hours: 48 hours/year (4 hours per week)
- Multimedia Systems
 - * Academic Year: 2009-2015
 - * Number of hours: 48 hours/year (4 hours per week)

I supervised more than 50 graduation theses

Part-time Lecturer

- Arab Academy for Science, Latakia, Syria

Sept. 2013 - Dec. 2014

- Co-Teacher: Data Structures course, Bachelor in Computer Science
 - * Academic Year: 2013/2014
 - * Number of hours: 24 hours (2 hours per week).

Full-time lecturer

- University of Kalamoon, Damascus, Syria, September 2008 - August 2009
Co-Teaching the following courses, Bachelor in Information Technology Engineering:

- Databases I
 - * Academic Year: 2008/2009
 - * Number of hours: 24 hours (2 hours per week).
- Databases II
 - * Academic Year: 2008/2009
 - * Number of hours: 24 hours (2 hours per week).
- Algorithms and Data Structure II
 - * Academic Year: 2008/2009
 - * Number of hours: 24 hours (2 hours per week).
- Internet and web programming
 - * Academic Year: 2008/2009
 - * Number of hours: 24 hours (2 hours per week).
- Electronic Commerce(java)
 - * Academic Year: 2008/2009
 - * Number of hours: 24 hours (2 hours per week).
- Multimedia Systems(Matlab)

- * Academic Year: 2008/2009
- * Number of hours: 24 hours (2 hours per week).
- GIS (Geographical Information Systems)
 - * Academic Year: 2008/2009
 - * Number of hours: 24 hours (2 hours per week).

I co-supervised three graduation thesis

Scholarships

Research scholarship for one year, 'Cyber Security' Project, DISIM, University of L'Aquila, starting Apr. 2018
 Erasmus scholarship for PhD, two and a half years, ASSUR project starting Oct. 2015
 My Master Scholarship (mutual fund) for three years starting 2001

Skills

- Programming and Software
 - Java, Python.
 - Matlab
 - Logic and Agent-Oriented Programming: Prolog, DALI, AgentSpeak, Answer Set Programming
 - Logic-based Machine Learning: ILP
 - Machine Learning and Neural Nets
 - OWL and Protege for building ontologies
 - Multi Agent-Oriented Programming
- Communication Skills
 - Good communication skills gained through my experience as a volunteer with the Syria Trust for Development (where I had been working with school student).
 - Team work skills gained through my work in different kinds of teams (e.g., my work as a member in the team of the Tempus JEP project “New MSc Curriculum in TeleInformatics”, 2008-2010, and as a member of the quality control team in the Technical Computer Institute of Tishreen University. This in addition to many other teamworks in my job and in volunteer teams).
 - The ability to work in a multicultural environment, gained during my study abroad, and my work in the European funded projects (mentioned above in the cv).
- Organizational / Managerial Skills
 - Leadership (acquired during my work as the VBI incubator manager, during my work as a scientific head of the software engineering department in the Technical Computer Institute, and during my work as a supervisor of the Syrian Computer Society in Jablah, Lattakia, Syria)
 - Sense of organization (gained during my work and participation to projects and organizing events like the MEandE-LP2021 workshop).
- Job-related skills

- Good competence in quality control processes (gained during my work as a member in the quality control unit team in the Technical computer Institute, Tishreen University)
- Teaching and Supervising
 - Acquired during my work as a lecturer in Syria, where supervising students' thesis as part of the job. In addition, I provided teaching support during my PhD and during the PostDoc, co-supervising graduation students theses.
- Professional Skills
 - I have been a reviewer for a few scientific articles.
 - Organized the 1st workshop on Machine Ethics and Explanation, The Role of Logic Programming (MEandE-LP), co-located with ICLP2021, the 37th International Conference on Logic Programming (ICLP 2021), that took place from 20th to 27th of September 2021. <https://sites.google.com/view/meande2021/home>. Our proposal of the second edition of this workshop was recently accepted.
- Other Skills
 - Yoga(member of the team of the "Syrian centre for Yoga and Meditation", www.yoga-syria.com)

Languages

- Arabic
 - **Mother Language**
- English
 - **Listening:** C1
 - **Reading:** C1
 - **Writing:** C1
- Italian
 - **Listening:** B2
 - **Reading:** B2
 - **Writing:** B1
- French
 - **Basic:** A1

Publications

- Dyoub, A., Costantini, S., Letteri, I., Lisi, F.A.
A logic-based multi-agent system for ethical monitoring and evaluation of dialogues.
Electronic Proceedings in Theoretical Computer Science 345, 182188 (2021)
Doi: 10.4204/eptcs.345.32
DOCUMENT TYPE: Conference Paper
SOURCE: DBLP

- Letteri, I., Cecco, A.D., Dyoub, A., Della Penna, G. (2021)
Imbalanced Dataset Optimization with New Resampling Techniques.
Lecture Notes in Networks and Systems, 295, pp. 199-215.
DOI: 10.1007/978-3-030-82196-8_15
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Dyoub, A., Costantini, S., Lisi, F.A., Letteri, I. (2020)
Logic-based machine learning for transparent ethical agents.
CEUR Workshop Proceedings, 2710, pp. 169-183.
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Dyoub, A., Costantini, S., Lisi, F.A., De Gasperis, G. (2020)
Demo Paper: Monitoring and Evaluation of Ethical Behavior in Dialog Systems.
Lecture Notes in Computer Science, 12092 LNAI, pp. 403-407.
DOI: 10.1007/978-3-030-49778-1_35
DOCUMENT TYPE: Conference Paper SOURCE: Scopus
- Dyoub, A., Costantini, S., Lisi, F.A. (2020)
Towards an ILP Application in Machine Ethics.
Lecture Notes in Computer Science, 11770 LNAI, pp. 26-35.
DOI: 10.1007/978-3-030-49210-6_3
DOCUMENT TYPE: Conference Paper PUBLICATION STAGE: Final SOURCE: Scopus
- Dyoub, A., Costantini, S., Lisi, F.A. (2020)
An approach towards ethical chatbots in customer service.
CEUR Workshop Proceedings, 2594, pp. 1-6.
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Dyoub, A., Costantini, S., Lisi, F.A. (2019)
Towards ethical machines via logic programming.
Electronic Proceedings in Theoretical Computer Science, EPTCS, 306, pp. 333-339. DOI:
10.4204/EPTCS.306.39
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Dyoub, A., Costantini, S., Lisi, F.A. (2019)
Learning answer set programming rules for ethical machines.
CEUR Workshop Proceedings, 2396, pp. 300-315.
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Costantini, S., De Gasperis, G., Pitoni, V., Dyoub, A. (2018)
Trustworthiness and safety for intelligent ethical logical agents via interval temporal logic and runtime self-checking.
AAAI Spring Symposium - Technical Report, 2018-March, pp. 29-36.
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Dyoub, A., Costantini, S., De Gasperis, G. (2018)
Answer set programming and agents.

Knowledge Engineering Review, 33 (1), art. no. e19.
DOI: 10.1017/S0269888918000164 DOCUMENT TYPE: Article
SOURCE: Scopus

- Costantini, S., Dyoub, A., Pitoni, V. (2018)
Reflection and introspection for humanized intelligent agents.
CEUR Workshop Proceedings, 2261, pp. 19-26.
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Costantini, S., Dyoub, A., Pitoni, V. (2018)
Towards humanized ethical intelligent agents: The role of reflection and introspection.
CEUR Workshop Proceedings, 2214, pp. 82-96.
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus
- Dyoub, A., De Gasperis, G. (2017)
Rule-based supervisor and checker of deep learning perception modules in cognitive robotics.
CEUR Workshop Proceedings, 1875
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Projects

- Participation to project entitled: “Village Business Incubator for Women Small and Micro Enterprises in the Coastal Midlands Areas of Syria”.
This project was implemented by Syria Trust for Development (Syrian NGO) with Technical Assistance of AIDOS (Italian NGO). The Project was funded by EU and IFAD.
Role: Incubator Manager, Ain- Al Tineh, Lattakia, Syria.
Period: From April 2006 to April 2008.
Responsibilities:
 - Managing and supervising the activities of the incubator.
 - Planning the incubator activities.
 - Reporting to the project coordinators, and to project manager.
 - Managing contacts with local authorities and organizations.
 - Participation to the project entitled: “New MSc Curriculum in TeleInformatics” Tempus JEP_34030_2006 project, project team member in charge of scientific work related to preparation of the syllabus, and administrative work (organizing events, reporting, preparing workplans).
Period: June 2008 to February 2010.
 - Participation to the project entitled: “DigForAsp (Digital forensics: evidence analysis via intelligent systems and practices)” CA17124 is funded by the European Cooperation in Science and Technology (COST). DigForAsp activities were launched on 10th September 2018 for 4 years.
 - Participation to the project: DISIM IOT SPEE2019,2020. The goal of this project was to develop a system for monitoring, managing and analyzing the data flow from the corporate network of IoT devices of the company SPEE SRL (The company offers solutions for integrated physical security and for advanced services of centralization, monitoring and management of processes and teleservices. http://www.spee.it/chi-siamo/spee_sintesi.html).
- Period: from April 2020 to December 2020.

- Developed a Multi-Agent System for monitoring and evaluation of the ethical behavior of dialogue systems, the project is available on github: <https://github.com/abeer-dyoub/EthicalEvalMAS>.

Seminars and Teaching Activities in Italy

- Seminar entitled: ‘Artificial Moral Agents, Ethical Decision Making (Between Rules and Experience)’, DISIM, University of LAquila, Italy, 2018.
- Exercises on Building MAS systems with AgentSpeak (Jason), as part of the master course ‘Artificial Autonomous Agents’, as Part of the Master program in computer science (2016-present), DISIM, University of L’Aquila. Number of hours per year: 4 hours.
- Exercises on Answer Set Programming, as part of the master course ‘Artificial Autonomous Agents’, As Part of the Master program in computer science (2016-present), DISIM, University of L’Aquila. Number of hours per year: 4 hours.
- Building ontologies with OWL and Protege, as part of the master course ‘Description Logics and Web Ontologies’, As Part of the Master program in computer science (2016-present), DISIM, University of L’Aquila. Number of hours per year: 8 hours.
- Invited Seminar entitled: ‘An Application of ASP and ILP in Machine Ethics’, conducted Virtually, 21 December 2020, University of Bari, Italy.
- All the above in addition to presenting my publications in many conferences and other events.

Research Activities

- My research work concerns Ethics of Artificial Intelligence. This research topic is a very recent one, but it has a great importance and it has attracted a lot of attention and concern in the last years. Machine Ethics is in fact a newly emerging interdisciplinary field which is concerned with adding an ethical dimension to Artificial Intelligent (AI) agents. Autonomous Intelligent Systems are designed to reduce the need for human intervention in our daily life. However, the full benefit of these new systems will be attained only if they are aligned with societys values and ethical principles. During my PhD, I concerned myself with the problem of building practical ethical machines which is not just about traditional engineering. With machine ethics, we aim to find ways to practically build machines that are ethically restricted, and can also reason about ethics. This involves philosophical aspects, even though the problem has a non-trivial computational nature. Specifically, I worked on how to exploit computational logic and MAS (Multi-Agent Systems) for building practical ethical machines. This work resulted in a novel logic-based hybrid approach for ethical decision making and judgment that integrates both reasoning and learning, and a framework based on this approach for monitoring and evaluation of ethical behavior of dialogue systems. In this approach, the ethical agent learns the domain ethical principles from interactions with users and exploits these learned ethical principles to make ethical decisions in the future. Later, during my PostDoc, I worked on implementing the above-mentioned proposed framework as a MAS. The proposed MAS acts as a separate ethical layer which provides many advantages from the engineering point of view. The proposed system has a great potential for building practical ethical machines in the future.
- I have developed and deployed a web application needed for our research activities, that can be found at the link : <http://ethicalchatbot.sytes.net/>. The objective of this web application is to collect data for building a dataset for training an ethical agent in customer service.

- I am a member of the University of LAquila Unit of the project TrustPACTX - Design of the Hybrid Society Humans-Autonomous Systems: Architecture, Trustworthiness, Trust, EthiCs, and EXplainability (the case of Patient Care), submitted to PRIN (Research Projects of National Interest) 2020 (pending grant application).
- I am a secondary proposer in the recently presented COST Action ‘Towards HYbrid Society humans-autonomous systems: the case of Patient Care’(pending grant application).

Participation to Conferences, Schools and Seminars

- Oral Presentations of papers at Conferences:
 - ICLP2021 conference, 20-27 September 2021, virtual. I presented the paper entitled: ‘A logic-based multi-agent system for ethical monitoring and evaluation of dialogues’.
 - CILC2021 conference, 7-9 September 2021, virtual. I presented the paper entitled: ‘Ethical Monitoring and Evaluation of Dialogues with a MAS’.
 - PAAMS 2020, 7-9 October, Virtual. I presented the paper entitled: ‘Demo paper: Monitoring and evaluation of ethical behavior in dialog systems’.
 - CILC2020, 13-15 October, Virtual. I presented the paper titled: ‘Logic-based machine learning for transparent ethical agents’.
 - CILC2019, 19-21 June, Trieste, Italy. I presented the paper entitled: ‘Learning Answer Set Programming Rules for Ethical Machines’.
- ACAI2021, The advanced course on AI on Human Centered AI, 11-14 October 2021 Berlin, Germany.
- NOBIAS summer School, September 20 22, 2021, virtuale.
<https://nobias-project.eu/index.php/nobias-summer-school/>
- Autumn School on Logic and Constraint Programming, 18-19 September, Rende, Italy, virtuale.
<https://sites.google.com/view/iclp-dc-2020/autumn-school-on-logic-programming>.
- AAMAS2021 conference, 3-7 May 2021, Virtual.
- DigForEthics workshop, 28-29 January 2021, Virtual.
- ICLP 2020, held in September 2020, Virtual.
- I was invited to participate to the Dagstuhl seminar 19171 on “Ethics and Trust: Principles, Verification and Validation”, 22-26 April 2019, Dagstuhl, Germany.
<https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=19171>
- HUMAINT Winter School on AI and its ethical, social, legal and economic impact”, 4-8 February 2019 at the Joint Research Centre of the European Commission based in Seville, Spain.
- Valencian Summer School on Machine Learning, Sept. 13-14 2018, University La Nau, Valencia, Spain.
- AAMAS 2018 and IJCAI 2018 conferences, 9-19 July 2018, Stockholm, Sweden.
- EASSS 2017 Summer School, 7-11 August, Gdansk, Poland.
- Short course on “Formal Methods”, duration: 10 hours, 2017, GSSI, L’Aquila, Italy.

- ESSLLI 2016 Summer School,15-26 August, Bolzano, Italy.
- All the above in addition to many other courses, seminars and conferences volunteering work.

Memberships

- Member of Engineers Order, Syria.
- Member of the Syrian Computer Society (SCS), Syria.
- Member of AISB (Society for Study of Artificial Intelligence Simulation of Behavior), Bath, UK.
- Member of ACM (Association for Computing Machinery).
- Member of GULP (the Italian Association for Logic Programming).